DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION
WRTS File # S4-35342

File No. S4-35342
WR Doc ID: 4683944

PRIORITY DATE	APPLICATION NUMBER
June 8, 2010	S4-35342

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Public Utility District No. 1 of Okanogan County PO Box 912 Okanogan, WA 98840	Enloe Dam Similkameen River

Quantity Authorized for Withdrawal or Diversion

DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
600	CFS	NA

Purpose

PURPOSE	DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Hydropower	600	0	CFS	NA	NA	01/01 – 12/31

REMARKS

Water use is non-consumptive as measured downstream of the bypass reach. Therefore, no annual quantity limit was specified.

Source Location

WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
Similkameen River	Okanogan River	Okanogan	49 - Okanogan

SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
East Bank	4026131003	40N	26E	13	Govt Lot 5 and 6	48.966067	-119.501628
West Bank	4026130002	40N	26E	13	Govt Lot 7	48.965459	-119.502475
						Datum: NAD83/WGS84	

Place of Use (See Map, Attachment 1)

PARCEL
4026131003 and 4026130002

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
Government Lot 6 and 7, Section 13, Township 40 North, Range 26 East, W.M.

Proposed Works

A trapezoidal intake canal will be excavated into the bedrock and will convey water out of the river channel on the east bank. A penstock intake will be located at the end of the intake canal. There will be two 8.5-foot (ft) diameter steel penstocks leading from the penstock intake to the powerhouse. The penstocks will provide water to two vertical-axis Kaplan turbine/generator units capable of producing a total of 9 megawatts (MW). The tailrace will be a trapezoidal canal excavated into bedrock that allows the water to return to the river.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
August 31, 2014	December 31, 2018	December 31, 2026

For this water right, putting water to full use means perfecting the instantaneous rate.

Measurement of Water Use

Hydropower

How often must water use be measured?	Daily
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	NA
What rate should be reported?	Daily Rate of Diversion (cfs)

Bypass Flows

How often must water use be measured?	Daily
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	NA
What rate should be reported?	Daily Bypass Flow Rate (cfs)

Provisions

Measurements, Monitoring, Metering and Reporting

An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. Water use data shall be recorded daily and maintained by the property owner. The daily rate of diversion shall be submitted to the Department of Ecology by January 31st of each calendar year.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms on which to submit your water use data.
http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

Department of Fish and Wildlife Requirement(s)
A Hydraulic Project Approval (HPA) permit will be required for construction related to the proposed project.

Bypass Flow
The water right holder must comply with Ecology's 401 Water Quality Certification No. 9007, related to licensing of the Enloe Hydroelectric Project (FERC No. 12569) on the Similkameen River, Okanogan County, Washington issued on July 13, 2012, and any subsequent updates. The following minimum flows must be maintained in the bypass reach. They are a requirement of the 401 Water Quality Certification as well as this authorization.

Time Period	Bypass Flows (cfs)
January 1 – July 15	10
July 16 – September 15	30
September 16 – December 31	10

Power Generation Fees
This use authorization is subject to the fees in Revised Code of Washington (RCW) 90.16.050 and 90.16.090. Theoretical horsepower for this water right calculated below:

$$\text{Theoretical Horsepower} = \frac{81 \text{ feet} * 600 \text{ cfs}}{8.8} = 5{,}523$$

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, will have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Proof of Appropriation
The water right holder must file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), place of use, and satisfaction of provisions.

Easement and Right-of-Way
The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right by this department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between the applicant and the owner of that land.

Findings of Facts
Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public welfare.

Therefore, I ORDER approval of Application No. S4-35342, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Yakima, Washington, this _____ day of _____ 2012.

_____
Mark Kemner, LHG, Section Manager
Water Resources Program/CRO

If you need this document in an alternate format, please call the Water Resources Program at 509-575-2490. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

INVESTIGATOR'S REPORT

BACKGROUND

Public Utility District No. 1 of Okanogan County (OKPUD) is undertaking a project to restart hydropower production at the Enloe Dam site on the Similkameen River. Enloe Dam is a 54-ft high, 315-ft long concrete gravity arch structure with a broad central overflow spillway that is 276-ft long (OKPUD, 2008). This project is Federal Energy Regulatory Commission (FERC) project number 12569. The proposed hydropower facility will be the third facility constructed to take advantage of the hydraulic potential of Enloe Dam. The first facility (since removed) was positioned on the left (east) bank of the river downstream from the dam and was in operation from 1906 to approximately 1920. The second facility (existing but in disrepair) was positioned on the right (west) bank of the river downstream from the dam and was in operation from approximately 1920 to 1958. The proposed facility will be positioned on the left (east) bank of the river downstream from the dam. For the remainder of this ROE we will refer to either the west or east bank of the river, as opposed to using river right and river left, respectively.

OKPUD has filed change applications for two existing water rights to add the east bank of the river as a new point of diversion and new place of use (application numbers CS4-CV1P243(A) and CS4-CV1P243(B)) as well as this application (application number S4-35342) and a groundwater application designed to provide environmental mitigation at the side channel enhancement area for any instream impacts that result from the project (application number G4-35343). These other applications are addressed in separate ROEs.

This water right application seeks approval to withdraw an additional 600 cfs for hydropower production. Details of this application are included in Table 1, below.

Table 1 Summary of Application No. S4-35342

Attributes	*Proposed*
Applicant	Public Utility District No. 1 of Okanogan County
Application Received	June 8, 2010
Instantaneous Quantity	600 cubic feet per second (cfs)
Source	Similkameen River
Point of Diversion	2 Points of Diversion: (1) Government Lots 5 and 6, Section 13, T. 40 N., R. 26 E.W.M.[1] (2) Government Lot 7, Section 13, T. 40 N., R. 26 E.W.M.
Purpose of Use	Hydropower
Period of Use	Continuously
Place of Use	Government Lots 5, 6, and 7, Section 13, T. 40 N., R. 26 E.W.M. [2]

[1] The point of diversion on the east bank is very close to the line between Government Lots 5 and 6 and so both lots have been identified, even though there will only be one diversion point on the east bank.

[2] The applicant requested that the proposed place of use include Government Lot 5, 6, and 7. However, it is clear that Government Lot 5 is located upstream and at a higher elevation than the intended location of the proposed powerhouse. The powerhouse, which is the place of use, will be located on either Government Lots 6 or 7.

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

- **Public Notice**

  Public notice of the application was published in the *Okanogan Valley Gazette-Tribune* and *Quad City Herald* on February 10 and February 17, 2011. One written protest was received by Ecology on March 18, 2011, during the 30-day protest period. The protest was from the Center for Environmental Law and Policy (CELP) on behalf of CELP, the Sierra Club Washington State Chapter, Spokane Falls Trout Unlimited, Citizens for a Sustainable Okanogan, and the Columbia River Bioregional Education Project. The protest letter is discussed in the *Consideration of Protests and Comments* section below.

- **State Environmental Policy Act (SEPA)**

  On April 4, 2012, OKPUD submitted a SEPA Determination of Nonsignificance (DNS) and Environmental Checklist, with supporting documents, for the four water right applications associated with the Enloe Dam Hydroelectric Project on the Similkameen River. These applications are in support of the PUD's Federal Energy Regulatory Commission (FERC) proposed license for the Enloe Dam Project, FERC No. 12569. Based on these documents, the PUD has determined that issuance of the requested water rights will not have a probable significant environmental impact and, therefore, they have prepared a DNS. The DNS was published on April 4 and 5 in the Omak-Okanogan Chronicle and the Gazette Tribune, respectively. This publication completes the environmental review associated with the four water right applications. Interested parties had until April 18 to submit written comments or permitting requirements.

  A comment letter was received from the Washington Department of Fish and Wildlife, dated April 17, 2012, which expressed concerns about the protection of flows in the bypass reach. OKPUD has replied to the WDFW and explained that the ROEs will be conditioned on OKPUD meeting the requirements of the State 401 water quality certification which, in turn, will be a condition of the FERC license. Both the FERC license and the 401 water quality certification will specify the flow requirements for the bypass reach and the methods of providing those flows. Indeed, the water right ROEs for each of the OKPUD applications include a provision that the water cannot be used for hydropower unless the requirements of the 401 water quality certification are met, which include the bypass flows and temperature criteria among other things.

  The Department of Ecology's environmental review staff commented in a letter dated April 16, 2012, that the details of the project relating to water rights will be addressed as part of the water right permitting process.

- **Water Resources Statutes and Case Law**
  - **401 Water Quality Certification Bypass Flows**

    Ecology's Water Resources and Water Quality Programs worked collaboratively to determine the flows that will be required throughout the year in the bypass reach in order

to operate the hydropower facility. This report of examination includes a provision that these flows must be met in order to utilize the water right.

Table 2 contains the flows from Ecology Order No. 9007, 401 Water Quality Certification, related to licensing of the Enloe Hydroelectric Project (FERC No. 12569) on the Similkameen River, Okanogan County, Washington Issued on July 13, 2012. The applicant is advised that, should the Water Quality Certification be modified in the future, this water right will be subject to the terms and conditions of the revised Water Quality Certification.

Table 2. 401 Water Quality Certification Required Bypass Flows	
Time Period	**Bypass Flows (cfs)**
January 1 – July 15	10
July 16 – September 15	30
September 16 – December 31	10

OKPUD will need to meet the bypass flows under the 401 Water Quality Certification, which are currently identified in Table 2, or as the bypass flow requirement in the 401 Water Quality Certification may be amended in the future.

- **Expedited Processing**
  Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by RH2 Engineering, Inc., under Ecology Cost-Reimbursement Agreement No. C1000190; Work Assignment No. RH2002. The hydropower facility will have no net consumptive use, outside of the bypass reach, and the subject application will not diminish the water available to earlier pending applications from the same source of supply. Therefore, this application meets the criterion for expedited review under RCW 90.03.265(1)(b).

INVESTIGATION

History of Water Use Under Water Rights held by OKPUD for the Enloe Project
From the Referee's report dated September 25, 1918:

The Similkameen Power Company, a corporation duly organized and existing under and by virtue of the laws of the State, initiated its rights to the waters of the Similkameen River in the fall of 1905, had constructed a hydroelectric plant situated on Lot 6, Section 13, T. 40 N., R. 26 E.W.M., in Okanogan County, Washington, together with intake, headrace, and tunnel for the diversion of the waters of the Similkameen River in connection with its power development and from about the end of the year 1905 it began operating the plant and so continued until June 1916 when it disposed of its interests to W. C. Sivyer and Eugene Enloe, who in turn continued the operation until the present successors, the Okanogan Valley Power Company, purchased all their right, title, and interest in the plant and water rights and continued to operate the same until the present time.

During these years they claim to have diverted and used about two hundred fifty second-feet of water. This claim is substantiated by measurements taken by the writer in November 1912 and by an engineer of this Department in August of the present year.

The following history of hydropower production near Similkameen Falls and Enloe Dam comes from Exhibit C of the Final License Application of the Enloe Hydroelectric Project, FERC Project No. 12569.

HISTORY OF PROJECT DEVELOPMENT AND OWNERSHIP

A detailed description of the hydroelectric development at the Enloe Hydroelectric Project site and of the ownership of facilities prior to the District is provided in the Historical American Engineering Record (HAER); Appendix E.4.1, (available upon request).

EARLY PROJECTS

The Enloe Hydroelectric Project is located on the Similkameen River about 3.5 miles northwest of the City of Oroville, in north-central Washington State, near the Canadian border. The history of hydropower development at this site, just upstream of Similkameen Falls on the lower Similkameen River, spans the past century.

According to the HAER (Appendix E.4.1), the earliest known power production on the Similkameen River occurred when an elderly German settler named Kruger placed a small waterwheel on a shaft and lowered it into the Similkameen River (Vissia 1974). The exact location of the waterwheel and powerhouse has been lost to time. This first powerhouse with its small generator furnished electricity for the mining town of Golden, located 6 miles to the south.

The first hydroelectric powerplant, a run-of-river project, was built at Similkameen Falls by the Similkameen Power Company, organized by J.M. Hagerty in 1902. Hagerty secured land and water rights at the site and spent the next three years developing the project until his death in 1905. Hagerty started construction on a wooden crib dam above the Similkameen Falls to divert water to the powerhouse below the falls. The wooden dam and powerhouse were completed in 1906, about a year after his death.

The plant supplied power and light to the towns of Oroville and Nighthawk, as well as local irrigation. The dam had contracts with the Owasco and Ivanhoe mines, where electric power was to be used in driving a 4,000-ft tunnel (Hallauer 1979). The Ruby and Caaba mine was also supplied with power, as was the Wannacut Lake mining camp of Golden.

The plant was leased to J.L. Harper and his associates, of Republic, Washington, in June, 1910. Operating under the name of North Washington Power Company, the consortium signed a ten-year lease obligating the Company to install a power line from Oroville to service Republic mines and mills. In October of the same year the Company announced plans to add 950hp to the Hagerty powerhouse (Oroville Weekly Gazette 2 September 1910:1). It appears that the North Washington Power Company failed to accomplish either of its envisioned plans as in 1913 executors of the Hagerty estate moved to cancel the lease for failure to perform and listed the property for sale (Oroville Weekly Gazette 14 March 1913:1).

In 1915, the Okanogan Water Company, a subsidiary of the Washington Water Power Company of Spokane, contested the water rights of the Similkameen Power Company. The West Okanogan Valley Irrigation District opposed the claims of both power companies, seeking the opportunity to develop power in connection with its irrigation system (Oroville Weekly Gazette 29 October 1915:1). Bo Sweeney, Assistant Secretary of the Department of the Interior, awarded the title of rightful claimant to the water power in the Similkameen River to the Similkameen Power Company.

ENLOE ERA

Eugene Enloe incorporated the Okanogan Valley Power Company (OVPC) under the laws of the State of Washington in 1913. In 1916, the OVPC bought the complete holdings of the Similkameen Power Company, including the powerhouse and all related machinery, and the power lines and substations that serviced the mines. Construction of the arch-gravity dam appears to have begun in 1919 and was

completed in the summer of 1920, as evidenced by the inscription stamped on the west abutment of the dam. The Project itself, however, was not completed for three more years, in 1923 (FPC Order Issuing License Project No. 2062, June 26, 1956). The Project served the mining community of Nighthawk upstream, and the crossroads town of Oroville downstream.

In July of 1922 Enloe Dam drew the attention of large power companies. Washington Water Power (WWP) had already extended a power line into Grant County early in 1922 (Oroville Weekly Gazette 21 July 1922:1). That year WWP approached Eugene Enloe, expressing interest in acquiring the facility. On January 1, 1923, Enloe sold the property to Washington Water Power. WWP then installed a second penstock from the dam and a second generating unit in the powerhouse (Oroville Weekly Gazette 11 May 1923:1). The Company also constructed cottages (since removed) near the east abutment of the dam to house operators of the facility.

WWP continued to operate Enloe Hydroelectric Project until 1945, when Public Utility District No. 1 of Okanogan County acquired the property. The District acquired the hydropower project on May 11, 1945 (FPC Order Issuing License Project No. 2062, June 26, 1956), and has owned it since. The District ceased operation of the power generators on July 29, 1958, when the extension of Bonneville Power Administration's high-voltage transmission line into the Okanogan Valley provided a less expensive source of power. Operation of Enloe Dam became unprofitable, and the facilities were abandoned. Operation was discontinued because the generating equipment had become obsolete and repair or modernization of the power facilities was not economically feasible. One of the penstocks, which had largely collapsed, was sold for salvage.

Project Description

Public Utility District No. 1 of Okanogan County (OKPUD) is undertaking a project to restart hydropower production at the Enloe Dam site on the Similkameen River. Enloe Dam is a 54-ft high, 315-ft long concrete gravity arch structure with a broad central overflow spillway that is 276-ft long (OKPUD, 2008). The project would include construction of a new powerhouse on the east bank of the river below the existing dam and upstream of the location of the original powerhouse on the east bank as well as construction of new water withdrawal facilities above the dam on the east bank of the river.

Through the FERC process, OKPUD has proposed a mitigation area on the Similkameen River, downstream of the City of Oroville, which is intended to mitigate potential effects of the bypass reach between the dam and the new powerhouse, a distance of approximately 370-ft. The mitigation will consist of approximately 2 cfs of groundwater withdrawn to hydrate a small side-channel of the Similkameen River with groundwater that exhibits lower ambient temperatures than the mainstem Similkameen River during the summer months. The groundwater source will derive from one or more wells completed on or near the existing river levee, which will tap an alluvial aquifer in hydraulic continuity with the river. The withdrawal is intended to be non-consumptive and beneficial to fish as a cold-water refuge in an existing natural channel. The mitigation area would not be modified extensively except for the exfiltration system that releases pumped groundwater into the channel. OKPUD has submitted a water right application (G4-35343) for this part of the project which is addressed in a separate report of examination.

Site Description

On November 22, 2010, Steve Nelson of RH2 met with Nick Christoph of OKPUD to inspect the Enloe Dam site and the side channel enhancement site on the Similkameen River. The west bank of the

Similkameen River at the dam is occupied by the west abutment of the dam, and historic diversion, penstock and powerhouse structures, which were intact but in a state of disrepair. According to Mr. Christoph, the OKPUD intends to see if it can find a group that would want to take ownership of the existing structures in order to preserve them from a historical perspective. If the structures are preserved, they would not be used to produce power. If no qualified organization agrees to take over ownership, then OKPUD intends to remove the structures. The preservation or removal of the historic structures will not affect the surface water flow or the stream channel. The east bank of the Similkameen River at the dam is occupied by the east abutment of the dam, and the foundation of the original powerhouse is visible downstream of the dam. The new access road and the new powerhouse on the east bank will not affect stream flow or significantly alter stream channel geometry. The new diversion structure will occupy the east bank above the east abutment of the dam. The new dam control structure on top of the dam will result in an approximately 5-ft rise above current pool elevation, which will match the pool height during historical operation of the dam. The resulting increase in pool height will inundate areas of the pool that were flooded during historical operation.

Water Rights Appurtenant to the Proposed Place of Use

Table 3 lists all of the water rights that were identified as being appurtenant to Government Lots 5, 6, and 7, Section 13, T. 40 N., R. 22 E.W.M. using Ecology's Water Resources Explorer on March 11, 2011 (https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx).

Table 3. Water Right Documents Associated With the Proposed Place of Use

Water Right Number	Priority Date	Qi	Qa (ac-ft/yr)	Owner	Purpose of Use
Adjudicated Certificate 1	Fall 1905	250 cfs	None Listed[1]	OKPUD	Hydropower
Adjudicated Certificate 1a	Approximately 1915 [2]	750 cfs	None Listed[1]	OKPUD	Hydropower
Application No. S4-35342	June 8, 2010	600 cfs		OKPUD	Hydropower
Long Form Claim No. S4-074639CL	August 1957	1.5 gpm	2.4	Bureau of Land Management	Livestock and Wildlife

[1] No annual volume was listed on the adjudicated water right certificates.

[2] This estimated priority date is based on the adjudication. This is the Class 3 right, which must be younger than the Class 2 right (priority date of March 1912) and older than the passage of the surface water code (June 1917).

The first three water right documents in Table 3 are owned by Public Utility District No. 1 of Okanogan County and are associated with historic and proposed hydropower production at Enloe Dam.

The water right claim was filed by the Bureau of Land Management for livestock and wildlife use from springs within Government Lot 5. Since the identified date of first use listed on the water right claim is after the enactment of the surface water code, it likely does not represent a vested right. However, the final determination of the validity and extent associated with a claim ultimately lies with the Superior Court through the general adjudication process provided for by RCW 90.03.110 through RCW 90.03.240.

OKPUD has requested to make the place of use include Government Lots 5, 6, and 7. For purposes of this report of examination the place of use is considered to be the powerhouse. Upon review of area topography, it was determined that Government Lot 5 lies primarily adjacent to and upstream of Enloe Dam. Therefore, the beneficial use of water for hydropower production could not occur in this area due to the lack of suitable hydraulic head. For this reason, Government Lot 5 will be excluded from the place of use.

The Bureau of Land Management Claim identified in Table 3 is attached to Government Lot 5. With the determination that Government Lot 5 is not appropriate to include as part of the place of use, any issues surrounding this claim are moot.

Impairment Considerations

Water in the Similkameen River could historically pass the Enloe Dam site by either spilling over the top of the dam, or by flowing through the penstocks and being utilized for creation of hydroelectric energy before returning to the river. Enloe Dam was designed to accommodate the spilling of water when flows exceeded the capacity of the hydroelectric facilities. However, OKPUD intends to provide a means of releasing water at the base of the dam to satisfy required flows in the bypass reach as specified by the 401 Water Quality Certification, Order No. 9007 related to licensing of the Enloe Hydroelectric Project (FERC No. 12569) on the Similkameen River, Okanogan County, Washington Issued on July 13, 2012 (see Table 2).

Instream flows are water rights that are measured at designated control points on the river, typically at a river gaging site. For this reach of the Similkameen River the control point identified in WAC 173-549-020 is USGS gage 12442500 Similkameen River at Nighthawk, which is located upstream of Enloe Dam. Because the water under this water right will be diverted and returned to the river a short distance downstream, the only affected stream reach is the bypass reach. Flows above the dam and below the tailrace will be unchanged. This, combined with the minimum instream flows required by the 401 Water Quality Certification to protect the bypass reach, results in no impairment of minimum instream flows.

The use of water under this water right is non-consumptive, except to the bypass reach leading from the point of diversion upstream of the dam to the tailrace of the hydropower facility below the dam. The bypass reach for the prior hydropower facility was a distance of approximately 900-ft measured downstream of the dam. The bypass reach for the proposed hydropower facility will be a distance of approximately 370-ft measured downstream of the dam. No surface water diversions are located within either bypass reach.

The 401 Water Quality Certification has established minimum instream flows for the bypass reach, which must be satisfied in order for the project to operate.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;

3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In accordance with RCW 90.54.020(1), the proposed use of water for hydroelectric power production represents a beneficial use of water.

Availability

The United States Geological Survey (USGS) has been measuring the discharge of the Similkameen River at Nighthawk (USGS gage 12442500), approximately 7 river miles upstream from Enloe Dam, from the fall of 1928 to the present day. The drainage area above the gage is listed as 3,550 square miles. The average annual discharge measured at this gage over the past 82 water years is 2,283 cfs. This gage is situated just upstream of the Oroville-Tonasket Irrigation District (OTID) diversion. So, the flow at this gage represents the river flow before the OTID, Okanogan PUD, and Devon diversions. Data from this gage was analyzed to determine if water is physically available for this water right request.

Table 4 lists the water rights authorizing surface water diversions from the Similkameen River between the USGS gage and the proposed tailwater location of the Enloe Dam hydropower project. This information was obtained using the Water Resources Explorer and WRTS database.

Table 4. Water Right Documents for Similkameen River Diversions between USGS gage (1221500) and Enloe Dam Tailrace

Document Type / Water Right Number	Priority Date	Qi	Qa (ac-ft/yr)	Owner	Purpose of Use
Adjudicated Certificate 1	Fall 1905	250 cfs	None Listed[1]	Okanogan PUD	Hydropower
Adjudicated Certificate 2	April 1912	From 50 to 186 cfs	49,351	Oroville-Tonasket Irrigation District	Irrigation (4/1 – 10/15)
Adjudicated Certificate 1a	Between May 1912 and June 1917	750 cfs	None Listed[1]	Okanogan PUD	Hydropower
SWC 10379	8/13/1954	Total diversion under this right and Adjudicated Certificate 2 is 200 cfs during irrigation season	None Listed	Oroville-Tonasket Irrigation District	Irrigation (4/1 – 10/31)
Certificate No. S3-22053C	11/9/1973	1.5 cfs	372 (371 Irrigation 1 Stockwater)	Dale Louis Devon	Irrigation (4/15 – 9/30) and Stockwater (year round) Subject to instream flows at Nighthawk

CONTINUED – Table 4

Document Type / Water Right Number	Priority Date	Qi	Qa (ac-ft/yr)	Owner	Purpose of Use
Claim No. S4-302088CL	7/1/1897	1.6 cfs	300	Oroville Golf Course	Irrigation, power, mining, and reservoirs
Claim No. S4-302434CL	8/1/1913	1000 cfs	450,000	Oroville-Tonasket Irrigation District	Irrigation, Industrial, & Power
Claim No. S4-112721CL	4/1974	52 gpm	4	Sidney Swain	Mining
Application No. S4-35342	June 8, 2010	600 cfs		Okanogan PUD	Hydropower

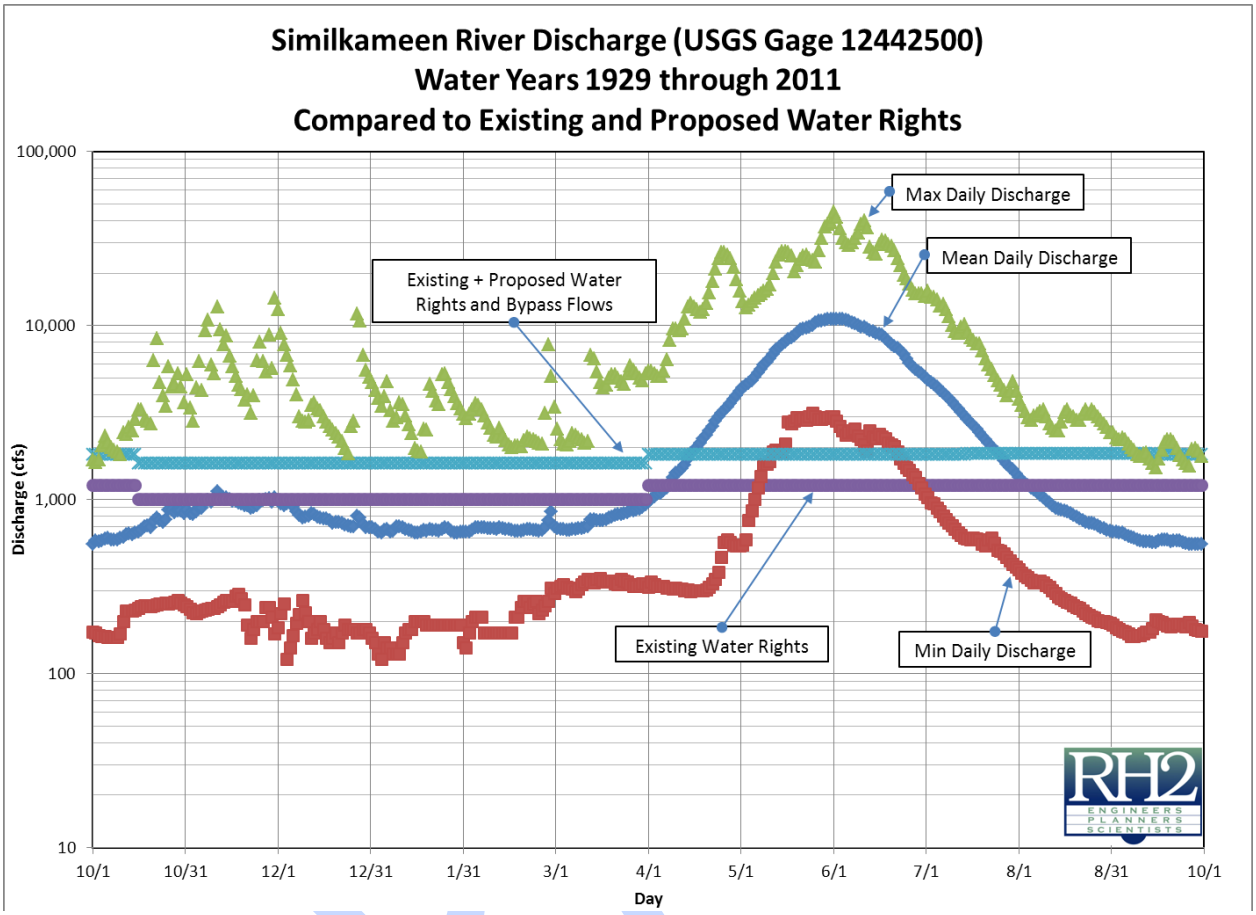
[1] No annual volume was listed on the adjudicated water right certificates.

The final determination of extent and validity of a water right claim can only be made by a County Superior Court through a general water right adjudication. The water right claims held by OTID and the Oroville Golf Course were not confirmed in the 1918 adjudication. Had vested rights been found to exist, then these rights would have been identified in that adjudication and confirmed. The claim held by Sidney Swain lists the date of first use as after the deadlines of 1917 (appropriative rights) and /or 1932 (riparian rights). Therefore, on its face it also does not appear to represent a vested water right. The Certificate in the name of Dale Louis Devon is subject to instream flows as measured at the Nighthawk USGS gage, as identified in the report of examination. When flows drop below the minimum instream flow levels, the water right holder must cease diversion until flows increase.

Water must be available for a new water right to be approved but a water right does not guarantee the availability of that water at all times. In situations where the full quantity of water requested may not always be available, the applicant needs to determine whether the availability is sufficient to satisfy the demands of their project. **Figure 1** contains the daily flow statistics for the Similkameen River including the minimum, maximum, and mean flows as measured on each day for a period spanning from October 1928 through September 2010 (82 years). It also shows the combined instantaneous diversion rate of the water rights diverting from the Similkameen River in the reach from the USGS gage to just below Enloe Dam, which include three water rights that were confirmed through the adjudication in 1919, plus SWC 10379 issued in the 1950s and Certificate S3-22053C issued in the 1980s. Finally, it shows the combined instantaneous diversion rate of the existing surface water rights plus the additional 600 cfs requested under this water right and the 401 Water Quality Certification required bypass flows.

Figure 1 shows that, in an average water year, one would expect that the PUD's Certificate 1a, a Class 3 right for 750 cfs, would only be partially fulfilled from August through March. On average, the full 600 cfs requested in this application will be available for approximately 2.5 months from Mid-April through July. Even in the lowest flow conditions, the full 600 cfs will be available for approximately 1 month from mid-May through mid-June. The maximum average daily river discharge has exceeded the existing plus requested water right demand with bypass flows on all but a handful of days in the late summer and early fall.

Figure 1.



Note: **Existing Rights In this figure Include the three adjudicated certificates (OKPUD and OTID), the OTID certificate (SWC 10379) and the Devon certificate (S3-22053C).**

Impairment

Water in the Similkameen River could historically pass the Enloe Dam site by either spilling over the top of the dam, or by flowing through the penstocks and being utilized for creation of hydroelectric energy before returning to the river. Enloe Dam was designed to accommodate the spilling of water when flows exceeded the capacity of the hydroelectric facilities. However, OKPUD intends to provide a means of releasing water at the base of the dam to satisfy required flows in the bypass reach as required by the 401 Water Quality Certification.

The only affected stream reach is the bypass reach. Flows above the dam and below the tailrace will be unchanged. The use of water under this water right is non-consumptive, except with respect to the bypass reach leading from the point of diversion upstream of the dam to the tailrace of the hydropower facility below the dam. The bypass reach for the prior hydropower facility was a distance of approximately 900-ft measured downstream of the dam. The bypass reach for the proposed hydropower facility will be a distance of approximately 370-ft measured downstream of the dam. No surface water diversions are located within either bypass reach.

Ecology has designated flows required throughout the year in the bypass reach in order to operate the hydropower facility (Table 2). This report of examination includes a provision that these flows must be

met in order to utilize the water right. These flows were also adopted as a requirement in the 401 Water Quality Certification Ecology Order No. 9007.

Public Welfare

As previously stated, the OKPUD has performed a number of studies and submitted a number of documents and supporting information as part of the FERC license application process. OKPUD analyses indicate "the projected economic and social benefits for the Project would be greater than the cost of the Project."

Given that this project will produce valuable electrical energy and will do so in a sustainable manner, that the impacts on the bypass reach are reduced from those under previous project scenarios, that minimum instream flows necessary to protect the aesthetic and instream resources in the bypass reach will be a required condition of project operation, and that any negative impacts are further mitigated by the downstream discharge channel, there is no basis on which to determine that this project will be detrimental to the public welfare.

Consideration of Protests and Comments

Comments were solicited from the Colville Confederated Tribes, Yakama Nation, and Washington State Department of Fish and Wildlife (WDFW) through email requests on March 11, 2011 and April 7, 2011. No response was received from either the Colville Confederated Tribes or the Yakama Nation.

WDFW worked with Ecology to ensure that the bypass flow requirements of the 401 Water Quality Certification are protective of fish and wildlife. This project is not authorized to be operated unless the bypass requirements of the Water Quality Certification are satisfied.

In addition, in an e-mail dated November 7, 2011, Patrick Verhey, the WDFW lead on Enloe Dam, stated:

> *We do not have concerns in regards to the water right applications and indeed support the side-channel project as part of the mitigation to address impacts of Project operations.*
>
> *My understanding from WDFW discussions with Okanogan PUD and Ecology is that we are not requiring an intake screen be placed at the entrance to the Enloe Dam penstock. A one inch spaced trash rack is being required by the FERC license along with monitoring and evaluation components to in part address impacts to fish. Also, impacts to resident fish entraining or mortality due to turbine strikes are being addressed by mitigation negotiated during the development of the FERC license. We continue to develop measure (sic) to monitor and evaluate these mitigations through the 401 water quality certification process. I do not support requiring a fish screen at the entrance to the penstocks.*
>
> *Tailrace exclusion screening for turbine start up and shut down are already an element of the FERC license application. Once the turbines are on line a velocity barrier will exist that will prevent fish from entering the tailrace and gaining access to the turbines. I don't see a need to duplicate requiring a tailrace net barrier as a WDFW provision.*

One written protest letter was received on March 18, 2011, from the Center for Environmental Law and Policy (CELP). The protest was from the Center for Environmental Law and Policy (CELP) on behalf of

CELP, the Sierra Club Washington State Chapter, Spokane Falls Trout Unlimited, Citizens for a Sustainable Okanogan, and the Columbia River Bioregional Education Project. The protest relates to the following new and amended water rights:

- CS4-CV1P243(A)
- CS4-CV1P243(B)
- S4-35342
- G4-35343

Because the protest letter applied to each of the four water right applications and because the applications are a mix of change applications and new surface and ground water applications, not every comment applies to every application. The following discussion includes the comments and Ecology's response to those comments as they relate to this water right application.

These points are also addressed in each of the other pending water right applications (CS4-CV1P243(A), CS4-CV1P243(B), and G4-35343) as they relate to those applications.

(1) Impoundment/diversion of water for the Enloe Dam is not non-consumptive and will have negative impacts on de-watered reaches of the Okanogan River.

Ecology's Water Resources Policy POL-1020 defines consumptive and non-consumptive use. It states that "Water used consumptively diminishes the source and is not available for other uses; whereas non-consumptive water use does not diminish the source or impair future water use." This policy also defines the "By-pass reach" as follows: "A water use may be consumptive to a specific reach of a stream when water is diverted, used, and returned to the same source at a point downstream not in close proximity to the point of diversion. The stream reaches between the point of withdrawal and the point of discharge is the by-pass reach."

WAC 173-549-010(5) states that:

> *Projects that would reduce the flow in a portion of a stream's length (e.g. hydroelectric projects that bypass a portion of a stream) will be considered consumptive only with respect to the affected portion of the stream. Such projects will be subject to instream flows as specified by the department. These flows may be those established in WAC 173–549–020 or, when appropriate, may be flows specifically tailored to that particular project and stream reach. When studies are required to determine such reach– and project–specific flow requirements, the department may require the project proponent to conduct such studies.*

Ecology worked with the WDFW to establish project specific minimum instream flows for the bypass reach which are a condition of the operation of this project, through the 401 Water Quality Certification, such that the project will be required to maintain specified flows in the bypass reach throughout the year.

The existing water rights for OKPUD's project at Enloe Dam are consumptive with respect to the by-pass reach associated with that project and this right, if approved, would be consumptive with respect to the by-pass reach described above. The question then becomes "What are the impacts of this diversion of water on that by-pass reach."

There are no existing surface water diversion points in the bypass reach. Therefore, this water right will not impair any existing diversionary water rights.

The question then becomes whether the diversion of water under this water right would impair instream values in the by-pass reach. This determination is being made as part of the 401 Water Quality Certification process and this application, if approved, will result in a permit that is conditioned upon satisfaction of the minimum instream flow requirements of the 401 certification.

(2) Proposed mitigation for the water rights is inadequate.

The hydropower facility will have no net consumptive use, outside of the bypass reach, and the subject application will not diminish the water available to earlier pending applications from the same source of supply. Mitigation is not required for authorization of this water right. Regardless, OKPUD has proposed a mitigation project on the Similkameen River, downstream of the City of Oroville, intended to mitigate potential effects of the bypass reach below the dam and above the new powerhouse, a distance of approximately 370-ft. In addition to the required minimum instream flows, the mitigation will consist of approximately 2 cfs of groundwater withdrawn to hydrate a small channel of the Okanogan River with groundwater that exhibits lower ambient temperatures than the mainstem Okanogan River. The groundwater source will derive from one or more wells completed on or near the existing river levee, which taps an alluvial aquifer in hydraulic continuity with the river. The withdrawal is intended to be non-consumptive and beneficial to fish as a cold-water refuge in an existing natural channel. The mitigation area would not be modified extensively except for the exfiltration system that releases groundwater into the channel. The OKPUD water right application for this part of the project is addressed in a separate ROE (G4-35343).

(3) Impoundment/diversion of water will cause adverse water quality impacts in the Similkameen River.

Water is already impounded by the existing Enloe Dam and has been for many years. The bypass flows under the 401 Water Quality Certification are designed to ensure compliance with the State water quality standards including flow, temperature, and dissolved oxygen in the bypass reach.

(4) Impoundment/diversion of water will cause adverse impacts on habitat and native aquatic species in the Similkameen River.

The bypass flows under the 401 Water Quality Certification were developed to prevent impacts to habitat and native aquatic species in the Similkameen River and satisfaction of those flows are a required condition of project operation.

(5) Impoundment/diversion of water will cause adverse impacts on aesthetic values, including at the Similkameen Falls.

If this application (and the related applications) is approved and the diversion of water at Enloe Dam is increased, less water will flow over the face of the dam when the powerhouse is diverting its full authorized quantity. However, diversions will only be allowed when the instream flows required by the 401 Water Quality Certification are satisfied. The bypass flows under the 401 Water Quality Certification are designed to protect the aesthetic values of water flowing over the falls.

(6) The Enloe Dam project is not economically feasible and the proposed water rights are therefore not a beneficial use of water resources of the state.

This comment was forwarded to Nick Christoph at OKPUD by email on April 1, 2011, for their consideration. Their response received via email on April 11, 2011, is as follows:

> The Okanogan Public Utility District (District) is proceeding to license and permit the Enloe Hydroelectric Project because it considers it to be economically feasible. The District has filed a License Application for the Project with the Federal Energy Regulatory Commission (FERC), documenting the Project's construction and annual operating costs, the costs of proposed protection, mitigation and enhancement measures, and the value of project power as compared to the off-peak and on-peak cost of bulk power at the Mid-Columbia hub. The FERC has accepted these analyses and data without further request for additional information to document the economic feasibility of the Project. In the judgment of the District, the projected economic and social benefits for the Project would be greater than the cost of the Project.

Based on this response, there appears to be no reason to suspect that this project is not economically feasible.

With respect to the claim that this project does not constitute a beneficial use of water, it should be noted that RCW 90.54.020 states that

> "Uses of water for domestic, stock watering, industrial, commercial, agricultural, irrigation, **hydroelectric power production**, mining, fish and wildlife maintenance and enhancement, recreational, and thermal power production purposes, and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state, **are declared to be beneficial**." (emphasis added).

Therefore, according to statutory law, hydropower is a beneficial use.

(7) The Enloe Dam project is connected to the proposed Shankers Bend project, directly upstream, but the two projects have been improperly segmented and the impacts are not being studied together.

On September 26, 2011, the OKPUD submitted a letter petitioning the FERC for the voluntary surrender of its preliminary permit for the Shanker's Bend Hydroelectric Project, stating that "due to a variety of District concerns that became evident in the District's studies of the potential Project and also experience gained in the course of the ongoing licensing proceeding for the Enloe Hydroelectric Project, FERC Project No. 12569, the District concludes that it would not be prudent to pursue the licensing of the Project at this time."

As a result of this action by the OKPUD, the comment expressing concern that the two projects are being addressed separately is no longer applicable.

(8) Water is not available for the proposed water rights.

Analysis of historic Similkameen River discharge shows that in an average water year, one would expect that the PUD's Certificate 1a, which is a Class 3 right (750 cfs) would only be partially fulfilled from

August through March. On average, the full 600 cfs requested in this application will be available for approximately 2.5 months from Mid-April through July. Even in the lowest flow conditions, the full 600 cfs will be available for approximately 1 month from mid-May through mid-June. The maximum average daily river discharge has exceeded the existing plus requested water right demand on all but a handful of days in the early fall.

Water availability is addressed in more detail in the Availability section below.

(9) The proposed water rights will be detrimental to the public interest.

The OKPUD has performed a number of studies and submitted a number of documents and supporting information to the FERC as part of the license application process. OKPUD analyses indicate "the projected economic and social benefits for the Project would be greater than the cost of the Project." Given that this project will produce valuable electrical energy and will do so in a sustainable manner, that minimum instream flows necessary to protect aesthetics and instream resources in the bypass reach will be a required condition of project operation, and that any negative impacts are further mitigated by the downstream side channel enhancement, there is no basis on which to determine that this project will be detrimental to the public welfare. In addition, WDFW supports the project as proposed including bypass reach flows and the side channel enhancement project (email from Patrick Verhey received November 7, 2011).

(10) SEPA review is inadequate.

At the time the protest was received (March 18, 2011), this was a true statement given the fact that the SEPA review had not yet been conducted for the project. However, on April 4, 2012, OKPUD issued a SEPA checklist and Determination of Nonsignificance (DNS) for the water right related portion of this project. In addition, OKPUD has adopted FERC's Environmental Assessment documents to satisfy the full project SEPA review. Issuance of that threshold determination and adoption of the federal documents concluded the SEPA process. Consistent with Water Resources Program Procedure PRO-1000, this draft report of examination was not finalized until SEPA was satisfied. See the discussion in the section of this ROE entitled State Environmental Policy Act (SEPA), above.

(11) Water right decisions must be linked with 401 Certification decisions.

Like the SEPA review, the 401 Water Quality Certification process was not complete at the time of protest. Minimum bypass flow conditions from the 401 Water Quality Certification are included by reference in the provision section of this report of examination as well as the corresponding sections of the reports of examination for the other pending water right applications for this project.
All hydropower permits or certificates issued for this project will be provisioned the minimum bypass flows as required in the 401 Water Quality Certification Ecology Order No. 9007, issued on July 13, 2012, and any subsequent updates or revisions.

(12) The existing water rights for the project have been lost for non-use.

This comment does not relate directly to this application except to the extent that, if the statement is accurate, this water right, alone, would probably not be sufficient to allow the OKPUD to proceed with the project. This argument is addressed in the discussion of Extent and Validity in the ROEs for the requested changes to the existing water rights. State law protects hydropower water rights from

relinquishment due to non-use when the water right holder has paid the power license fees (RCW 90.14.140(2)(a)). Ecology records indicate that OKPUD (and its predecessors) has paid the power license fees for their existing water rights from the period of 1929 through 2012. Therefore, these rights have not been relinquished because of non-use. In addition, any claim of abandonment of these rights is easily refuted by the deliberate payment of the power license fees by the water right holder for more than 80 years.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for hydropower is a beneficial use of water;
2. The 600 cfs is available for non-consumptive appropriation;
3. The new appropriation will not impair senior water rights; and
4. The new appropriation will not be detrimental to the public welfare.

RECOMMENDATION

Based on the information presented above, the author recommends that the request to non-consumptively appropriate 600 cfs under application S4-35342 be approved in the amounts described, and as limited and provisioned on pages 1 through 3 of this report.

Report by: _____
Jim Bucknell, RH2 Engineering, Inc. Date

Report by: _____
Steve Nelson, RH2 Engineering, Inc. Date

Report by: _____
Andrew B. Dunn, RH2 Engineering, Inc. Date

Reviewed by: _____
Kelsey S. Collins, Water Resources Program Date

If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

ATTACHMENT 1. Authorized Points of Diversion and Place of Use